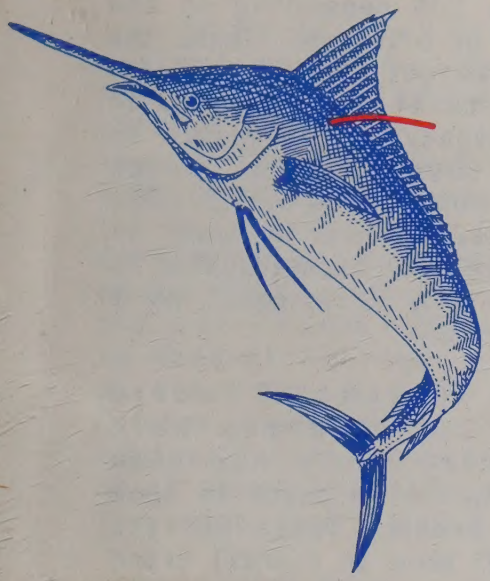
U.S. DEPARTMENT OF COMMERCE
National Oceanic & Atmospheric Administration
National Marine Fisheries Service
Southwest Fisheries Center
P.O. Box 271, La Jolla, California 92038 U.S.A.



1985 BILLFISH NEWSLETTER

Results of the
COOPERATIVE MARINE GAME FISH TAGGING PROGRAM
and the
PACIFIC BILLFISH ANGLER SURVEY

- PACIFIC BILLFISH ANGLER SURVEY
- COOPERATIVE MARINE GAME FISH TAGGING PROGRAM
- WORLD TREND IN BILLFISH CATCHES

LIBRARY
MAY 2 8 1985
National Marine Fisheries Service
2570 Dole Street
Honolulu, Hawaii

HIGHLIGHTS

- As a result of the El Niño of 1983 catch rates off Baja California and southern California changed substantially.
- Anglers tagged 198 striped marlin off southern California in 1984, a decrease from 225 in the El Niño year of 1983.
- Tagging of blue marlin increased for the Hawaiian Island area.
- A striped marlin tagged off southern California in 1983 was recovered 262 days later near the island of Maui.
- A world distance record for a tagged billfish was set when a Japanese longliner recaptured a black marlin north of New Zealand that had been tagged off Cabo San Lucas Baja California, Mexico, in January 1983.

1985 BILLFISH NEWSLETTER

In past years the major topic of this Newsletter was the results of the Cooperative Marine Game Fish Tagging Program and the Pacific Billfish Angler Survey. This year we have added a brief review of the trend in billfish catches worldwide, and from the Pacific Ocean. This addition should be of interest to billfish anglers because the trend in catches may be related to the success the angler has in catching billfish.

WORLD TREND IN BILLFISH CATCHES

The worldwide catch of billfish and other species of fish and shellfish is recorded annually by the United Nations Food and Agriculture Organization (FAO). These catch records are published by FAO, and the most recent summary includes catches through 1982.

The world commercial production of billfish appears to be holding steady at a catch level of 94,000 to 97,000 metric tons. This figure is near the previous high recorded in 1965 of 115,000 metric tons. Figure 1 gives the trend of billfish catches worldwide as compiled by F.A.O., 1961- 1982.

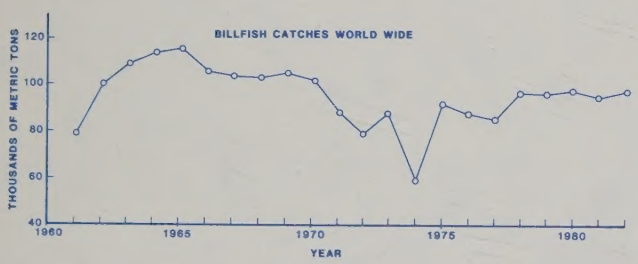


Figure 1. World billfish catch, 1961-1982.

The major commercial catches of billfish are made using longline and, to a lesser extent, drift gill net fishing gear. When billfish are landed aboard the fishing vessel they are usually partially processed. They may have their bill removed for easier storage, and the gills and internal organs are removed. This reduces the billfish weight by about 20% depending on the species and size of billfish. Thus, the reported total weight (landing weight) is less than the total round weight, or the original weight, of the fish. To determine the total weight, catch figures must be multiplied by 1.2. For example, the 94,000 metric tons of billfish landed in 1982 when adjusted to catch or round weight, would equal about 112,800 metric tons.

Although the total world production of billfish has held relatively steady there has been considerable variation in catch in some of the fishing areas. Total Pacific catches (Figure 2) show an overall trend similar to the trend observed for world catches because the Pacific Ocean is one of the major contributors to the world's total.

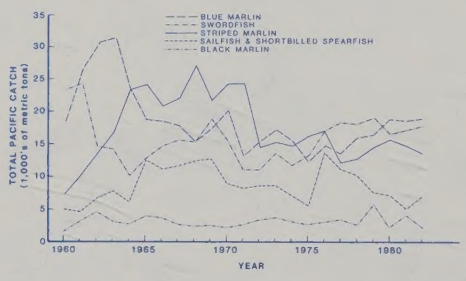


Figure 2. Trends of Pacific Ocean catch, striped, blue, and black marlin, sailfish and shortbilled spearfish, 1960-1982.

Since 1975, Pacific billfish catches have remained relatively steady with the exception of the catch of Pacific sailfish. This species showed a considerable decline in total catch after 1975; however, 1982 catches are about at the same level as catches before 1975. Substantial declines in catch were recorded in the mid-1960's for striped marlin and in the early 1970's for blue marlin. Blue marlin catches have increased slightly to about 18.5 thousand metric tons in 1982. Total catches of black marlin and swordfish catches have remained steady; 1982 catches of swordfish were 16,000 and black marlin were 3,000 metric tons.

Of particular interest to U.S. anglers that fish in the eastern Pacific is the trend in catch for striped marlin and sailfish. These species became target species for the longline fishery starting in the early 1960's. The longline fishery off Baja California was targeted (and still is) on striped marlin and swordfish. Off the central west coast of Mexico south to Central America large catches of sailfish were made in the mid-1960's. Catches of striped marlin in the eastern central Pacific peaked in 1965 (Figure 3) at about 16.8 thousand metric tons (as reported by F.A.O.).

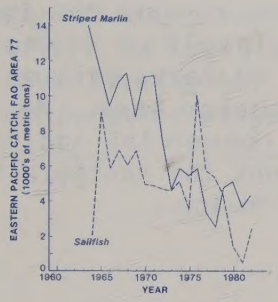


Figure 3. Eastern Pacific catch of striped marlin and sailfish 1964-1982.

Catches declined rapidly until about 1972, and 1982 catches were about 4.3 thousand metric tons. Sailfish catches peaked in 1965 at about 9.5 thousand metric tons, and they declined to a 1982 catch of 2,500 metric tons.

Total catch is important in evaluating general production and its trend over time. However, the trend of the amount of catch in relation to the recorded amount of fishing effort (catch rate or catch per unit effort [CPUE]) is more significant in evaluating the condition of the resource than is the total catch. Total catch of a commercial fishery may be affected by weather, economics, changes in fishing effort, and distribution and abundance of the resource. The measure of CPUE is calculated in several ways. In analysis of commercial longlining operations the CPUE is expressed in numbers of fish or weight of catch per 1,000 hooks fished, or 10,000 hooks fished. In the recreational fishery for billfish, CPUE is usually expressed as catch per hour, or catch per angler day or boat day. Although the trend of total catch (see Figure 1) may decrease, the catch rate may remain stable due to a reduction in fishing effort. Conversely the catches could increase due to increasing effort.

The Pacific Billfish Angler Survey attempts to determine the trend of the catch rate for billfish anglers, and provides a rough measure of the trends in billfish abundance in the fishing area. In some areas of the Pacific both recreational and commercial catch rate data are available and trends of each can be evaluated to determine if they are correlated. If they are correlated, the fisheries may be affecting one another. An example of this is the downward catch rate trend in the 1960's and 1970's of both the commercial longline and the recreational fishery for striped marlin off the southern tip of the Baja California, Mexico peninsula. During the past five years both catches and catch rates appear to be stable at about 0.5 to 0.7 fish (striped marlin) per day in the recreational fishery and about 1.0 fish (striped marlin) per 1,000 hooks fished by the commercial longline fishery.

An increase or decrease in effort, or changes in distribution and abundance can cause increases or decreases in catch. Thus, total catch by itself may not be an accurate representation of the status of the resource.

RESULTS OF THE 1983 PACIFIC BILLFISH ANGLER SURVEY

Billfish anglers who fished in the Pacific in 1984 are requested to complete the enclosed postcard giving the number of days they individually fished for billfish by quarter of the year, and the number of billfish caught (landed or released) by quarter. If additional forms for the 1984 survey are needed for clubs or individuals, please

write the Southwest Fisheries Center, the International Game Fish Association, or the Pacific Gamefish Foundation.

Postage for the survey card is prepaid within the U.S.A. To reduce the postage cost to billfish anglers outside the U.S., it is suggested that fishing clubs mail angler survey forms in bulk.

This is the only international survey conducted to collect angler catch data to determine trends in angler billfish catch and effort. The survey data reflect the responses of the individual anglers and, over the years, we have stressed the need for accurate, unbiased reporting of catch-and-effort. The survey is only as valid as the data given by the cooperating anglers that participate. The survey is not a survey to determine which area has the highest catch rate, but to obtain a truthful measure of the billfish angler's success rate, or the trend of the catch rate over time. Please complete only one form per angler for any billfishing in 1984 only.

Catch and effort information for the last 20 years of longline fleet operations fishing for billfish in the Pacific is available. However, information on the trend of catch rates in the recreational billfish fishery in the Pacific has been available from the NMFS since 1969. Many club and charterboat operators have maintained records of catch, but only in some isolated cases is there any information on the amount of effort involved in the catching of marlin and sailfish.

In 1969 the Pacific Billfish Angler Survey was started by the U.S. Fish and Wildlife Service's Tiburon Marine Laboratory (now part of the National Marine Fisheries Service) and the Survey has been conducted annually since. Its purpose is to determine the trend in billfish catch per angler day for various locations throughout the Pacific. The information derived from this survey is summarized by geographical areas and species caught, and is available to anyone interested in the trend of billfish fishing. These data have been used by Governments and organizations in developing management plans for the billfish fisheries.

The trend of the angler's billfish catch rate as determined by the Survey for the important recreational fishing areas throughout the Pacific is of primary interest to the marine angler and to the fishery researcher who is working on determining the status of the several species of billfish. In some instances the survey has allowed researchers to measure the impact of the commercial longline fishery on the recreational fishery, both of which fish a common resource base. An example of this is the commercial and recreational fisheries about the southern tip of Baja California, Mexico.

RESULTS

The catch and effort data given by billfish anglers are combined by quarters of the year and then catch per unit effort (CPUE) is calculated. In the case of this Survey the CPUE is calculated in terms of "fish per day" and "days per fish." The CPUE is an average rate of all billfish anglers who have responded to the survey. It does not necessarily represent the catch rate at any one peak catch period. Because the catch rate is an average, some anglers caught less and some caught more. The catch rates may vary according to the availability and catchability of billfish in the sportfishing areas and the abundance level of the stock that the fishery is operating on.

In the 1982 survey for southern California 296 striped marlin were reported caught in 2,660 days of fishing. This is the equivalent of 0.11 fish per day or 8.98 days per fish. Catch rates of 0.10 fish per day or 10

days per fish are commonly observed for striped marlin fishing in southern California.

About the southern tip of Baja California, Mexico, catch rates are considerably higher. In 1982, the catch rate for striped marlin, as reported by anglers fishing 2,805 days, was 0.78 fish per day or 1.26 days per fish.

In 1983 the total number of billfish angler days reported in the Pacific and Indo-Pacific Ocean was 9,138; the total number of billfish reported caught was 4,069.

The 1983 billfish angler survey for the Pacific Ocean showed a decrease from 1982 of 831 angler days. The numbers of billfish reported decreased from 1982 by 1,089. The Pacific-wide billfish catch rate for 1983 was 0.45 billfish per angler day, or 2.25 days per billfish. The catch rate was down from the 1982 results (0.51 fish/day or 1.96 days/fish). The catch rates reported by anglers for billfish fishing in 1983 are given in Table 1.

Table 1. Results of the 1983 billfish angler survey by location, number of angler days reported, number of billfish caught, catch per unit effort in terms of number of billfish per fishing day and number of days fishing per fish, and major species reported for the area. For comparative purposes 1982 data are given in parentheses (---).

Location	Angler fishing days	No. of billfish	Billfish per fishing day	Fishing days per billfish	Major species*
A. Pacific Ocean - areas with 100 or more angler fishing days reported.					
Southern California, U.S.A.	2,696 (2,660)	485 (296)	0.18 (0.11)	5.56 (8.98)	SM (SM)
Baja California Sur, Mexico (tip area)	2,797 (2,805)	2,015 (2,215)	0.73 (0.78)	1.36 (1.26)	SM (SM)
Hawaii, U.S.A.	1,377 (953)	392 (248)	0.28 (0.26)	3.51 (3.84)	BLM (BLM)
Australia	560 (662)	353 (381)	0.63 (0.57)	1.53 (1.73)	BKM (BKM)
Panama	178 (417)	82 (554)	0.46 (1.32)	2.17 (0.75)	SF (SF)
New Zealand	631 (297)	79 (46)	0.13 (0.15)	7.99 (6.45)	SM (SM)
Mazatlán, Mexico	110 (99)	64 (63)	0.58 (0.64)	1.72 (1.57)	SF (SF)
Costa Rica	199 (196)	254 (247)	1.28 (1.26)	0.78 (0.79)	SF (SF)

Acapulco, Mexico	100 (46)	87 (44)	0.87 (0.96)	1.15 (1.04)	SF (SF)
B. Pacific Ocean - areas with 100 or fewer angler fishing days reported.					
Manzanillo, Mexico	75 (54)	45 (11)	0.60 (0.20)	1.67 (4.90)	SF (SF)
Guaymas/Kino, Mexico	67 (112)	10 (5)	0.15 (0.04)	6.70 (22.40)	SF (SF)
Ecuador	94 (187)	88 (189)	0.94 (1.01)	1.07 (0.99)	SM (SM)
San Blas, Mexico	18 (99)	9 (62)	0.50 (0.63)	2.00 (1.59)	SF (SF)
Puerto Vallarta, Mexico	17 (9)	20 (7)	1.18 (0.78)	0.85 (1.28)	SF (SF)
Guam	34	4	0.12	8.50	SM
New Guinea	27 (17)	2 (4)	0.07 (0.24)	13.50 (4.25)	SF (SF)
Japan	36 (40)	21 (17)	0.58 (0.42)	1.71 (2.35)	SM (SM)
C. Other areas (Indian Ocean)					
Mauritius	60 (39)	22 (8)	0.37 (0.20)	2.73 (4.87)	BLM (BLM)
Kenya	58 (499)	35 (237)	0.60 (0.53)	1.66 (1.89)	SF (SF)
United Arab Emirates Persian Gulf	54 (138)	29 (103)	0.64 (0.75)	1.86 (1.34)	SF (SF)
South Africa	23 (33)	6 (5)	0.26 (0.15)	3.83 (6.60)	SF (BKM)

*SM-Striped marlin; SF-Sailfish; BLM-Blue marlin; BKM-Black marlin.

Trends in Billfish Catches

The trend of angler catch per unit effort (CPUE) in terms of billfish per day is depicted below for striped marlin (California, U.S.A., Baja California Sur and Mazatlán, Mexico), Pacific sailfish (Acapulco, Mazatlán and Baja California Sur, Mexico) blue marlin (Hawaiian Islands) and black marlin (Queensland, Australia). The occurrence of the climatic phenomena of "El Niño" in 1983 probably had an effect upon the catch rates of billfish in certain areas of the Pacific. Catch rates for striped and blue marlin off Baja California, Mexico, and striped marlin off southern California were probably modified due to changes in the northeast Pacific environment.

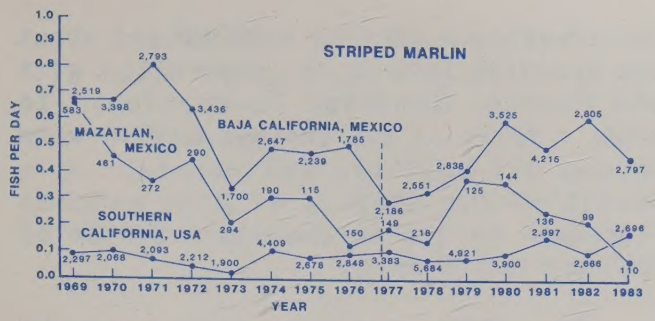

STRIPED MARLIN
MAZATLAN, MEXICO
BAJA CALIFORNIA, MEXICO
SOUTHERN CALIFORNIA, USA
FISH PER DAY
YEAR
1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983

Figure 4. Striped marlin angler CPUE or billfish caught per angler fishing day. Numbers indicate billfish fishing days reported.

The 1983 catch rate for striped marlin caught off Baja California was 0.47 fish per day which was a decrease from the 1982 rate. Blue marlin were very common in the fishery in 1983. Usually, a few blues are caught in late summer and early fall; however in 1983 blue marlin were common about the tip of Baja California starting in the spring of 1983. The blue marlin catch rate was 0.18 fish per day based on 2,797 anglers reporting a catch of 500 blue marlin. The southern California catch rate for striped marlin (0.18 fish/day) increased from the 1982 rate and was the highest catch rate, surpassing the 1981 rate.

The catch rate for striped marlin at Mazatlán declined at approximately the same rate as the catch rate for the Baja California fishery.

Figure 5. Pacific sailfish angler CPUE (fish per angler day). Numbers indicate billfish fishing days reported.

Sailfish catch rates continued to be about 0.8 to 0.9 fish per day for Acapulco. Other important sailfish fishing areas such as Panama recorded 0.5 fish per day, down sharply from 1.1 fish per day recorded in 1982, and Costa Rica recorded 1.3 fish per day, up slightly from 1982.

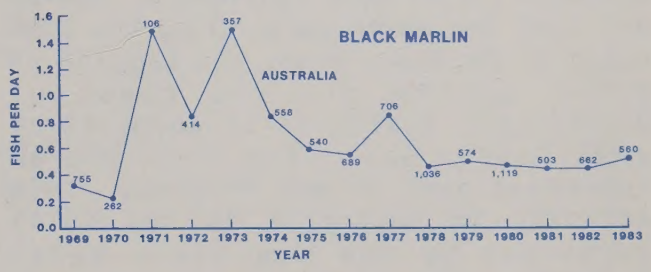


Figure 6. Black marlin angler CPUE for the Queensland, Australia area, 1969-1983. Numbers indicate billfish fishing days reported.

The CPUE in 1983 for black marlin was similar to the trend of CPUE observed since 1978--about 0.5 fish per angler day (0.5 in 1983). After considerable fluctuation in the early 1970's and a downward trend until 1978, the catch rate has remained stable from 1978 to the present.

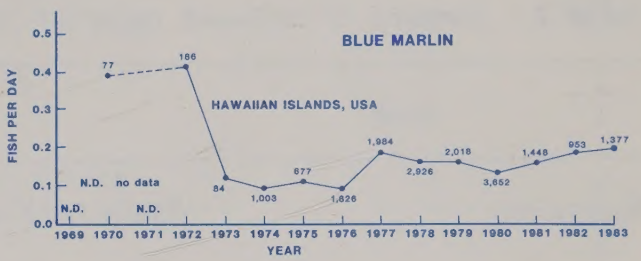


Figure 7. Blue marlin angler CPUE for the Hawaiian Islands area, 1969-1983. Numbers indicate billfish fishing days reported.

The blue marlin CPUE shown in Figure 7 reflects a slight increase to 0.19 fish per day in 1983. Catch rates of about 0.2 fish per day have been common since 1977 and the surveys since 1980 have shown slight increases in CPUE.

COOPERATIVE MARINE GAME FISH TAGGING PROGRAM--1984

In the early years of the tagging program major emphasis was placed on tagging striped marlin about the southern tip of Baja California, Mexico and from the major ports along the west coast of Mexico. Also, the tagging of black marlin off the coast of Queensland, Australia in cooperation with Cairns Game Fish Club was an important part of the Program. This activity in Australia is now fully supported by the New South Wales Fisheries, Sydney, Australia and the tagging program is directed by Dr. Julian Pepperell. The National Marine Fisheries Service has supported tagging by New Zealand anglers by providing supplies. This well-organized program conducted by the New Zealand Ministry of Agriculture and Fisheries is under the direction of Mr. Peter Saul in Whangarei, New Zealand.

Increased emphasis is now being placed on the tagging of striped marlin off southern California with the support of the National Coalition for Marine Conservation - Pacific Region, and about the Hawaiian Islands in cooperation with the Pacific Gamefish Foundation. In 1984, a total of 198 striped marlin were tagged off southern California. As a result of the 1982-83 El Niño catches increased in the northwestern sector of southern California.

In 1984 catches were again increased in the northwestern sector of southern California. However increased catches were evident in the more normal fishing areas such as around Catalina Island. In 1984 a total of 848 billfish were reported tagged and released, 366 less than the number tagged in 1983. Tagging of blue marlin increased in 1984; a total of 23 blue marlin were reported tagged about the Hawaiian Islands. Some of the well-known charter captains in the Kona area, such as Murray Mathews, Jim Hunter, Jeff Frey, John Jordan and Randy Parker, contributed to the increase in tagging of blue marlin.

A summary of tag releases by area and species in 1984 is listed in Table 2.

Table 2. Summary of releases reported in 1984.

Area	Species	Releases
Australia	Black Marlin	12
		12
New Zealand	Striped Marlin	10
	Albacore	4
	Mako Shark	107
	Yellowtail	16
	Blue Shark	6
	Hammerhead Shark	5
		148
Hawaii	Blue Marlin	23
	Sailfish	2
	Striped Marlin	1
	Marlin	1
		27

Southern California	Striped Marlin	188
	Sailfish	1
	Marlin sp.	10
	Blue Marlin	1
	Broadbill Swordfish	1
	Mako Shark	2
	Yellowtail	1
	Blue Shark	4
	Bonito	1
		209
Baja California, Mexico	Striped Marlin	280
	Blue Marlin	58
	Black Marlin	3
	Marlin sp.	49
	Sailfish	95
	Roosterfish	1
	Dolphinfish	1
	Hammerhead Shark	1
		488
Mazatlán-Puerto Vallarta	Striped Marlin	1
		1
Manzanillo-Acapulco	Sailfish	3
	Striped Marlin	1
		4
Costa Rica	Blue Marlin	1
	Sailfish	62
	Black Marlin	4
		67
Panama	Sailfish	1
		1
Ecuador	Striped Marlin	2
	Pargo	1
		3
Other Areas	Sailfish	12
	Striped Marlin	19
	Blue Marlin	3
	Black Marlin	4
	Blue Shark	1
	Wahoo	5
	Thresher Shark	1
		45

Table 3 gives the names of anglers and captains who have tagged and released two or more marlin off southern California in 1984. Names of taggers were taken from the computer after coding the tag report card. Mr. Dave Denholm was the leading tagger off southern California in 1984 with 11 billfish credited. This is the second year he has tagged and released more billfish off southern California than any other angler. Second place in the angler category went to Mike Callan with a tie for third between Pat Crosby and Bill Lescher, each with 6 marlin tagged and released. Captains Joe Mike Lopez and Mike Callan were both credited with 13 marlin tagged and released, which resulted in a tie for most billfish tagged. Second was Martin Morris and following with 7 marlin tagged was Mark Bull and Dick Sieminski.

Table 3. Names of anglers and captains reporting tagging of 2 or more striped marlin off southern California in 1984 and number of marlin credited.

Anglers	Number	Captains	Number
David Denholm	11	Mike Callan	13
Mike Callan	7	Joe Lopez	13
Bill Lescher	6	Martin Morris	8
Pat Crosby	6	Dick Sieminski	7
Robbie Bailor	4	Mark Bull	7
Don McPherson	4	Ron Dixon	6
Robert Good (Santa Monica)	4	Joe Houck	6
Ron Dixon	4	Randy Wood	6
Harry Okuda	3	Gary Jasper	6
Tim Tennigkeit	3	Bill Lescher	5
Bob Williams (B.G.)	3	Robert Good	5
Gary Jasper	2	Don McPherson	4
Carolyn Jasper	2	Robbie Bailor	3
Sanbo Sakaguchi	2	Debbie Dixon	3
Alan Epstein	2	Dick Spencer	3
Randy Wood	2	Ed Martin	3
Camie Garnier	2	Bill McCorkell	2
Dick Mullholland	2	Rowan Henery	2
Mike Thomas	2	Terry Bliss	2
Doug Daniels	2	Cami Garnier	2
Marshall Hugo	2	Jim Bridges	2
Jim Sieminski	2	Jerry Lewis	2
Rich Johnson	2	Marie Johnson	2
Jan Hargraves	2	Ronald Haworth	2
Bob Good (Pac. Palisades)	2	Craig Gilbert	2
Steve Levenson	2	Marshall Morgan	2
Bill Woodard	2	Kay Mullholland	2
		Lynn Jasper	2

Tag Recoveries in 1983--Pacific area

A total of 9 billfish tags were returned to the Southwest Fisheries Center in calendar year 1984. This is a decrease from the 21 in 1983. All billfish tag recoveries were from striped marlin. One of the longer recoveries was from a striped marlin tagged and released by Richard Barrett near Santa Rosa island in September 1983 and recovered by the Hawaiian longliner "Typhoon" (Jim Carson) east of Maui in June 1984.

Information on the long distance recovery of a marlin was received from Japan early in 1985. A 130 pound black marlin was tagged and released off Cabo San Lucas in January 1983 by J.P. Carlier of Paris, France. This marlin was recaptured by a Japanese longliner No. 10 Kinnei-Maru 613 miles northeast of New Zealand in September 1984. This marlin traveled (straight-line distance) about 5,670 nautical miles in its migration from the northern hemisphere to the southern hemisphere and across the Pacific Ocean and is the longest distance on record traveled by a tagged billfish. Details of this recovery will appear in the 1986 Newsletter.

Tag recovery information for New Zealand tagging is maintained by Mr. Peter Saul of the New Zealand Ministry of Agriculture and Fisheries, Whangarei, New Zealand and if you have any specific questions on the Ministry of Agriculture and Fisheries tagging program I suggest you contact Peter Saul. This program is growing and tags are being distributed by NZMAF for tagging other than billfish.

Table 4 lists billfish recoveries reported during the calendar year of 1984.

Table 4. Billfish and other species having recoveries reported during 1984.

Species/Location of tagging	Tagged by Angler/Captain	Date Day/Mo./Yr.	Recovered by	Date Day/Mo./Yr.	Location	Days Released
Striped Marlin						
(384) 3 miles off Bahia de Palmas, B.C.S., Mexico	Fred Junn Sun Valley, ID. Martin Fiol, Captain	24 Feb. 1984	Peter Albonico Willow Creek, CA.	12 Mar. 1984	Same Area	381
(387) Off Cabo San Lucas, B.C.S., Mexico	Mary J. Welch Fullerton, CA. K.L. Little, Captain	25 Mar. 1984	C.D. Olsen San Diego, CA.	21 Apr. 1984	Jaime Bank B.C.S., Mexico	27
(389) -	Unknown	-	Jorge Lucero Buena Vista B.C.S., Mexico	22 Feb. 1984	Off Buena Vista, B.C.S., Mexico	-
(391) Off Buena Vista, B.C.S., Mexico	John Babler Matitomedi, MN.	15 Apr. 1983	Angler (Unknown)	- Apr. 1984	Off Cabo San Lucas, B.C.S., Mexico	365
(394) 12 miles SE Santa Rosa Island, CA.	Richard Barrett Newport Beach, CA. Craig Oliver, Captain	21 Sep. 1983	Captain Jim Carson "Typhoon"	3 Jun. 1984	60 miles East of Maui, HI.	262
(395) 18 miles, 110° Ford Point Santa Rosa Island, CA.	Bill Lescher Seal Beach, CA. Mike Callan, Captain	23 Sep. 1983	Debbe Dixon So. Laguna, CA. Ron Dixon, Captain	16 Aug. 1984	6 miles, 185° West End Catalina Island, CA.	327
(396) Santa Barbara Island, CA.	Bob Shaver Tom Shaver, Captain	2 Sep. 1984	Michael Famengo San Pedro, CA.	4 Sep. 1984	10 miles SE Anacapa Island, CA.	2

(398) 10 miles N. off Punta Colorada, B.C.S., Mexico	Stan Jones Santa Ana, CA. Craig Gilbert Captain	24 Jun. 1984	Mark Fabian San Francisco, CA.	29 Feb. 1984	Off Buena Vista, B.C.S., Mexico	250
(399) Off Cabo San Lucas, B.C.S., Mexico	Bob Browand San Diego, CA. Roberto, Captain	9 Nov. 1983	Hanno Wigand La Pine, OR.	8 Mar. 1984	Off Cabo San Lucas, B.C.S., Mexico	119
Yellowfin Tuna						
(388) 235° 12NM Point Loma, San Diego, CA.	Richard Johnson Rancho Santa Fe, CA.	24 Aug. 1983	M/V Paesa Ensenada, Mexico	13 Jul. 1984	28°33'N 115°37'W	323
(392) 14NM 190° Point Loma, San Diego, CA.	Richard Johnson Rancho Santa Fe, CA.	26 Oct. 1983	M/V Gloria H. Ensenada, Mexico	7 Jul. 1984	28° 115°56'W	24
(393) 19NM 215° Point Loma, San Diego, CA.	Richard Johnson Rancho Santa Fe, CA.	22 Sep. 1983	J. Gonzales Ensenada, Mexico	5 Jun. 1984	23°55'N 113°53'W	256
Skipjack						
(385) 13NM 250° Point Loma, San Diego, CA.	Richard Johnson Rancho Santa Fe, CA.	15 Aug. 1983	M/V Barbara Ann Wilmington, CA.	31 May 1984	Off Cape San Lazaro, B.C.S., Mexico	289
Blue Shark						
(400) -	Unknown	-	Berel Shimbare Los Angeles, CA. Reported by Bill Beebe Santa Monica, CA.	24 Mar. 1984	6 miles West of Manhattan Beach, CA.	-

Other Some of the tag recoveries for New Zealand are sent to this laboratory, others directly to the Ministry of Agriculture and Fisheries, New Zealand (c/o Peter Saul). The New Zealand recoveries sent to La Jolla are listed as follows:

Mako Shark						
(386) Off Cape Kidnappers, N.Z.	L. Truman Taradale, N.Z.	22 Feb. 1983	Richard Burnett Hastings, N.Z.	18 Jul. 1984	12 Miles E. of Postland Island	511
(397) -	Unknown	-	P.A.D. Miller Cusepipe, Mauritius	23 Sep. 1984	E. of Mauritius	-
(401) Off Cape Kankari, N.Z.	Grahame Ashley Taupiri, N.Z. L.G. Ross, Captain	19 Mar. 1984	Shotoku Maru #18, Japan	27 Sep. 1984	33°20'S 174°15'E	153
(402) Off Cavalli Island, N.Z.	Allan Jones Tokirima, N.Z. L.G. Ross, Captain	25 Apr. 1984	Kamishiro Maru #58, Masashi Hamada, Captain	14 Sep. 1984	31°40'S 172°30'E	142
Yellowtail (S. Grandis)						
(390) 8 miles SW of White Island, N.Z.	Jason Carter Whakatane, N.Z. R. Pollock, Captain	26 Apr. 1984	J.P. Jones Ohope, N.Z.	22 May 1984	Off White Island, N.Z.	26

In 1985 we will have a limited number of tags available for tagging striped and blue marlin about the tip of Baja California, Mexico. We plan to have tags available to Rancho Buena Vista and Spa Buena Vista. These two locations have a long record of supporting the tagging program by encouraging anglers to tag and release billfish. A high percentage of billfish releases in Baja California have been from these two locations. These two locations and the tagging by U.S. boats fishing about the tip of Baja California are the major tagging groups.

Billfish tags will be available for the southern California season at the following locations:

San Diego:

The Marlin Club (San Diego Bay)
Mission Bay Marlin Club (Mission Bay)

Newport/Balboa:

Balboa Angling Club (Newport Beach)
Bisbee's (Balboa Island)

Catalina Island, Avalon, CA.

Catalina Seafood (Rose Cadman),
Avalon Pier
The Tuna Club (Avalon)

Channel Islands Area:

Harbor Bait & Tackle, Ventura, CA.

For tags in the Hawaiian area and the central and western Pacific area, contact Dr. Chuck Daxboeck at the Pacific Gamefish Foundation at Kailua Kona, Hawaii (P.O. Box 3189). The Pacific Gamefish Foundation is cooperating in the tagging of billfish in the mid-Pacific area.

Gardiner Foundation Awards, Oakland, California, will again make plaque and cash awards to the Mexican fishing captains who tag and release the most billfish about the tip of Baja California. Captain Antonio Vargas of Hotel Rancho Buena Vista was the winner in 1984. The 1984 Gardiner Foundation awards will probably be made in Baja California in June 1985.

NOTE: A. This Newsletter is sent to individuals who: 1. have recently tagged and released billfish and other oceanic species 2. have submitted the angler survey form during the past year, and 3. request copies.

B. United States Government Regulations require an annual revision of our mailing list for this report. If you wish to receive the 1986 Billfish Newsletter, return the Angler Survey Card with your name, current address, and zip code, if applicable, to the Southwest Fisheries Center.

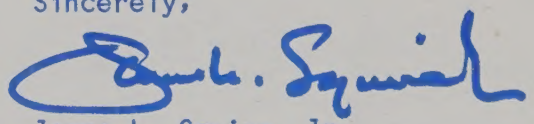
1. If you did not fish for billfish in 1984 and wish to continue to receive this Newsletter, indicate on the Billfish Angler Survey form "no billfish fishing," PRINT your name and address and return the form; you name will be retained on the mailing list.

2. Those individuals who report billfish fishing in 1984 by returning the Billfish Angler Survey form will be automatically retained on the mailing list.

3. Individuals reporting tagging and releasing fish in 1985 will be placed on the mailing list for this Newsletter for the year following tagging.

Again, thank you for your cooperation and interest in the billfish angler survey and tagging program.

Sincerely,



James L. Squire, Jr.
Fishery Biologist (Research)
U.S. Department of Commerce
NOAA, NMFS
Southwest Fisheries Center
P.O. Box 271
La Jolla, California 92038